4959 Edgemere Avenue
Baltimore-15, Maryland
July 14, 1947

Mr. Joshua Lederberg
Osborn Botanical Laboratory
Yale University
New Haven, Connecticut

Dear Josh:

I phoned you ▬ the day we had decided upon, but you
were out of town, so I am writing to pass on the latest results
of the B. anthracis work plus a brief summary of the material
with which you are already familiar.

1-Separate cultures of rough and smooth B. anthracis
   were incubated at 37 and 42°C for 13 days (experiment
   discontinued at this point) . No morphological changes.

2-Smooth plus rough at 42°C. 4,400,000 rough added to
   5,500,000 smooth. After 48 hours 9,330,000 smooth and
   no rough present.

3- Smooth plus rough at 37 and 42°C. 14 smooth added to
   15, 900,000 rough.
       4 days-42° = 15,500,000 smooth; no rough.
       4 days-37 = 10,400,000 smooth; 4,600,000 rough.

       7 days-42°= all smooth ⎰Lowest dilution= 0.1 ml of
       7 days-37 = all smooth ⎱ 1:10 dil. spread over agar

       7 days-42°= one rough colony; others smooth.
       7 days-37 = ratio of 1 rough to 3 smooth.
           (Loopful streaked on agar)

4-Rough organism grown in broth filtrate and in heat
   killed suspension of smooth showed no change after
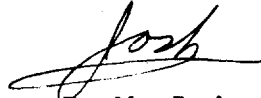   6 days at 42°C.

The following may be of interest: The smooth mutation
shows a loss of proteolytic enzymes and of virulence. A reversion
in enzymes can be obtained, but virulence and the original rough-
ness are not regained.

If the above has not bored you, the rest of this letter
may do so. I am anxious to get back to the laboratory to continue
the research but will have to wait until September. Will you be
staying on at Yale or will you return to Columbia? My only useful
deed this summer was reading Luria's review on genetics. I enjoyed

it and plan to do some more reading in the same field, for I have a sneaking suspicion that the geneticists (and genetics) are getting the correct answers in far more instances than I (let us not say "in my ignorance") have been willing to admit.

Please say "Hello" to Esther for me.

Sincerely yours,

J. M. Leise